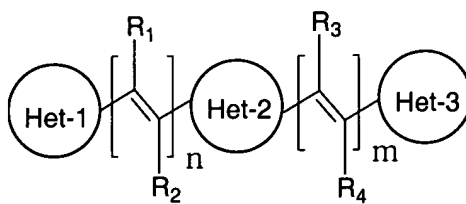


**AMENDMENTS TO THE CLAIMS**

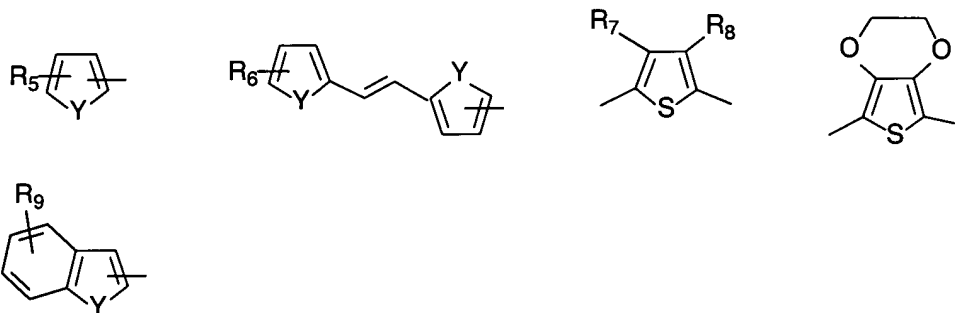
Claims 1-16 (Canceled)

17. (New) A compound of formula (I)



(I)

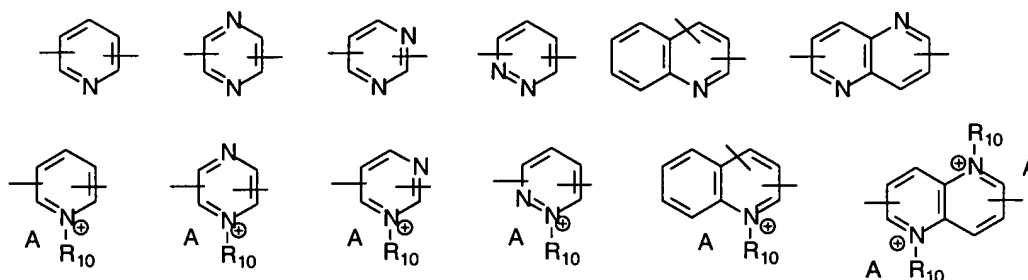
wherein Het-1 and Het-3 are identical or different, and are selected among the following heterocyclic groups:



wherein Y may be O, S, or NZ with Z = H, lower alkyl, and aryl; and wherein R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are the same or different, and are selected from the group consisting of H, alkyl groups having from 1 to 18 carbon atoms, alkoxy, aminoalkyl, alkylhalide, hydroxyalkyl, alkyl groups containing hydroxy and amino functionalities, alkoxyalkyl, alkylsulfide, alkylthiol, alkylazide, alkylcarboxylic, alkylsulfonic, alkylisocyanate, alkylisothiocyanate, alkylalkene, alkylalkyne, aryl, formyl, and that can contain electronpoor ethenylic moieties such as

maleimide, capable to react with nucleophilic groups such as  $-SH$ , and groups such as isothiocyanate capable to react with groups such as  $-NH_2$ ;

and Het-2 is selected among the following heterocyclic groups:



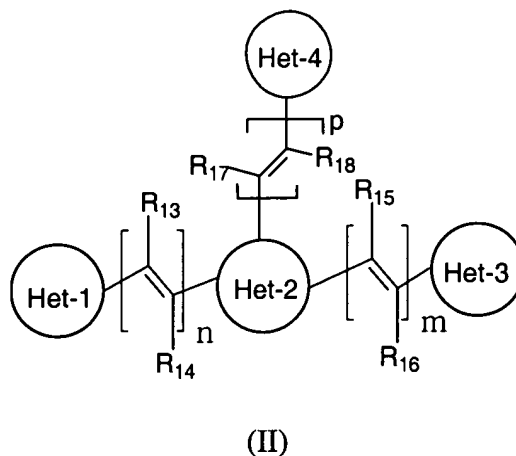
wherein  $R_{10}$  is selected from the group consisting of H, alkyl groups having from 1 to 18 carbon atoms, alkoxy, aminoalkyl, alkylhalide, hydroxyalkyl, alkyl groups containing hydroxy and amino functionalities, alkoxyalkyl, alkylsulfide, alkylthiol, alkylazide, alkylcarboxylic, alkylsulfonic, alkylisocyanate, alkylisothiocyanate, alkylalkene, alkylalkyne, aryl, formyl, and that can contain electronpoor ethenylic moieties such as maleimide, capable to react with nucleophilic groups such as  $-SH$ , and groups such as isothiocyanate capable to react with groups such as  $-NH_2$ ;

and A is selected among the anions alkylsulfonate, arylsulfonate, polyarenesulfonate, triflate, halide, sulfate, methosulfate, phosphate, polyphosphate;

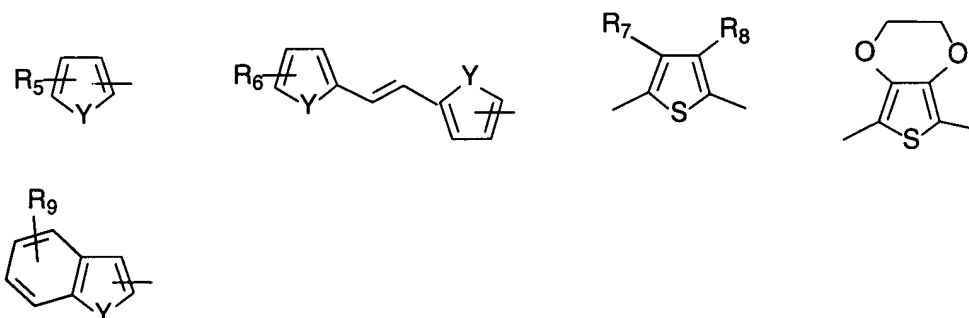
and wherein n and m, the same or different may be 0,1,2;

and  $R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$ , the same or different, may be H, lower alkyl, alkoxyalkyl, aryl, cyano, alkoxycarbonyl,  $-(CR_{11}R_{12})_p$ -Het, wherein  $0 < p < 10$ ,  $R_{11}$  and  $R_{12}$ , the same or different, are selected from the group of H, lower alkyl, and Het may be Het-1 or Het-2 or Het-3.

18. (New) A compound of formula (II)



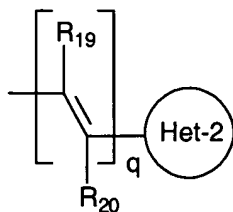
wherein Het-1, Het-3, and Het-4 are the same or different and are selected among the following heterocyclic groups:



wherein Y may be O, S, and NZ with Z = H, lower alkyl, aryl;

and R<sub>5</sub>, and R<sub>6</sub>, are the same or different, and are selected from the group consisting of H, alkyl groups having from 1 to 18 carbon atoms, alkoxy, aminoalkyl, alkylhalide, hydroxyalkyl, alkyl groups containing hydroxy and amino functionalities, alkoxyalkyl, alkylsulfide, alkylthiol, alkylazide, alkylcarboxylic, alkylsulfonic, alkylisocyanate, alkylisothiocyanate, alkylalkene, alkylalkyne, aryl, formyl, ketone, and that can contain electronpoor ethenyl moieties such as maleimide, capable to react with nucleophilic groups such as -SH, and groups such as

isothiocyanate capable to react with groups such as  $\text{-NH}_2$ ;  $\text{R}_5$ , and  $\text{R}_6$ , the same or different, may further be the following heterocyclic group:



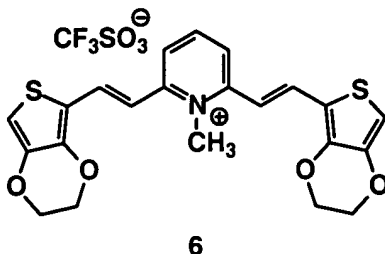
and  $\text{R}_7$ ,  $\text{R}_8$ , and  $\text{R}_9$  are defined as in claim 1;

and Het-2 is defined as in claim 1;

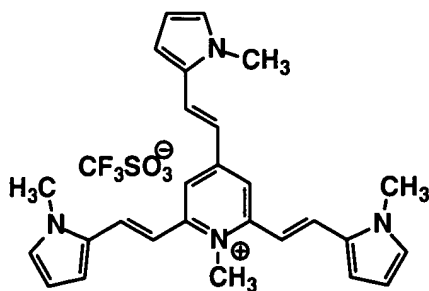
and wherein  $n$ ,  $m$ ,  $p$ , and  $q$ , the same or different, may be 0, 1, or 2;

and wherein  $\text{R}_{13}$ ,  $\text{R}_{14}$ ,  $\text{R}_{15}$ ,  $\text{R}_{16}$ ,  $\text{R}_{17}$ ,  $\text{R}_{18}$ ,  $\text{R}_{19}$ , and  $\text{R}_{20}$  are the same or different and are selected from the group of H, lower alkyl, alkoxyalkyl, aryl, cyano, alkoxycarbonyl,  $\text{-(CR}_{21}\text{R}_{22})_l\text{-}$  Het, wherein  $0 < l < 10$ , and  $\text{R}_{21}$  e  $\text{R}_{22}$ , the same or different, are selected from the group of H, lower alkyl, and Het may be Het-1 or Het-2 or Het-3, or Het-4.

19. (New) The compound according to claim 17, having the following formula (6)

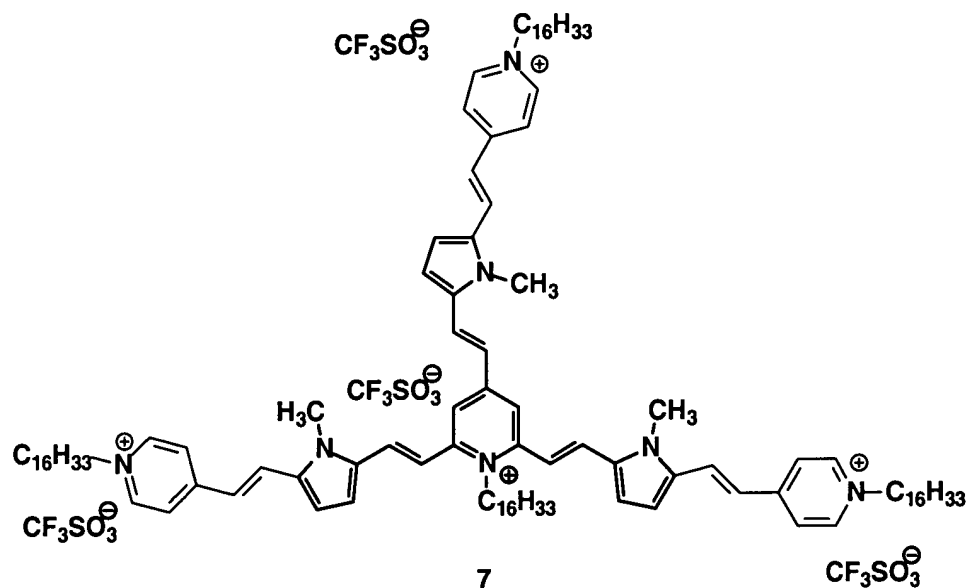


20. (New) The compound according to claim 18, having the following formula (3)



3

21. (New) The compound according to claim 18, having the following formula (7)



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22. (New) A two-photon absorbing chromophore, in solution or in a solid state, being a compound of claim 17.

23. (New) A two-photon absorbing chromophore, in solution or in a solid state, being a compound of claim 18.

24. (New) A compound of general formula (I) according to claim 17 for use in two-photon absorption systems.

25. (New) A compound of general formula (I) according to claim 17 for use as optical power limiting agent via two-photon absorption.

26. (New) A compound of general formula (I) according to claim 17 for use as imaging agent with two-photon absorbing activity for application in detection technologies such as two-photon laser scanning fluorescence microscopy.

27. (New) A compound of general formula (II) according to claim 18 for use in two-photon absorption systems.

28. (New) A compound of general formula (II) according to claim 18 for use as optical power limiting agent via two-photon absorption.

29. (New) A compound of general formula (II) according to claim 18 for use as imaging agent with two-photon absorbing activity for application in detection technologies such as two-photon laser scanning fluorescence microscopy.

30. (New) A composition for use in two-photon absorption systems comprising a compound according to claim 24.

31. (New) A composition for use in two-photon absorption systems comprising a compound according to claim 27.

32. (New) The composition according to claim 30 comprising a polymer material chosen among poly(acrylate), poly(methacrylate), polyimide, polyamic acid, polystyrene, polycarbonate, polyurethane.

33. (New) The composition according to claim 30 comprising an organically-modified silica ( $\text{SiO}_2$ ) network.

34. (New) The composition according to claim 32, wherein said compound is linked to the said polymer material by covalent bonds.

35. (New) The composition according to claim 33, wherein said compound is linked to the said silica network by covalent bonds.

36. (New) The composition according to claim 30 for use as optical power limiting agent via two-photon absorption.

37. (New) The composition according to claim 30 for use as imaging agent with two-photon absorbing activity for application in detection technologies such as two-photon laser scanning fluorescence microscopy.

38. (New) A composition according to claim 31 comprising a polymer material chosen among poly(acrylate), poly(methacrylate), polyimide, polyamic acid, polystyrene, polycarbonate, polyurethane.

39. (New) The composition according to claim 31 comprising an organically-modified silica ( $\text{SiO}_2$ ) network.

40. (New) The composition according to claim 38 wherein said compound is linked to the said polymer material by covalent bonds.

41. (New) The composition according to claim 39 wherein said compound is linked to the said silica network by covalent bonds.

42. (New) The composition according to claim 31 for use as optical power limiting agent via two-photon absorption.

43. (New) The composition according to claim 31 for use as imaging agent with two-photon absorbing activity for application in detection technologies such as two-photon laser scanning fluorescence microscopy.